UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/815,074	LAWRENCE ET AL.
	Examiner	Art Unit	
	ROBERT TIMBLIN	2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>12 February 2009</u>.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-28</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-28</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This Office Action corresponds to application 10/815,074.

Reopening of Prosecution after Appeal Brief

In view of the Pre-Appeal Brief request filed on 2/12/2009, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/John R. Cottingham/

Supervisory Patent Examiner, Art Unit 2167

Claim Objections

Claims 1 and 18 are objected to because they should include a semicolon (;) after "result" in the determining step.

Appropriate correction is required.

35 USC § 101

Claims 18-21 are now accepted under 35 U.S.C. 101 for the inclusion of a computer-readable storage medium. As an interpretation gleaned from the specification (e.g. paragraph 0012), a computer-readable <u>storage</u> medium is best interpreted as electronic, optical, or magnetic media (such as a hard drive) and thus can be seen as statutory. Because these claims preclude the use of transmission media, the claims are seen as statutory.

Claims 25-28 are now accepted under 35 U.S.C. 101 for the inclusion of a computer processor which is best seen as a hardware element, thus precluding the interpretation of claiming software per se.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by
another filed in the United States before the invention by the applicant for patent or (2) a patent
granted on an application for patent by another filed in the United States before the invention by the
applicant for patent, except that an international application filed under the treaty defined in section
351(a) shall have the effects for purposes of this subsection of an application filed in the United States
only if the international application designated the United States and was published under Article 21(2)
of such treaty in the English language.

Claims 1-2, 4-12, 15-18, and 21-26 are rejected under 35 U.S.C. 102(e) as being

anticipated by Liu et al. ('Liu' hereafter) (U.S. Patent 7,099,860). Liu teaches the claims

in the following drawing references of figures 1-7 and the following cited portions.

With respect to claim 1, Liu teaches A computer-implemented method for ranking

information, comprising:

receiving a plurality of query results (col. 3 line 32-34 and figures 6-7; e.g.

retrieving a plurality of images in response to a search) of a plurality of search queries

(col. 3 line 23-25 and col. 7 line 67-col. 8 line 10 as well as figure 3 drawing reference

302 and col. 12 step 1; e.g. keywords parsed from a query);

merging (col. 8 line 22-23; i.e. *adding* found images to the result set) the plurality

of query results (col. 3 line 32-34 and figures 6-7) into a merged query result (figs. 6-7),

the merged query result (figs. 6-7) being associated with the plurality of search queries

(col. line 20-24 and figure 3 which shows keywords associated to images);

determining a first ranking sequence (fig. 4 drawing reference 412) of the merged

query result (col. 7 line 15-18figs. 6-7);

presenting the merged query result (figs. 6-7) to a user (figure 2 drawing reference 200) according to the first ranking sequence (col. 7 line 19-21 and drawing reference 416; i.e. displaying a result set from initial query handling);

identifying an input signal (figure 5 drawing reference 502) from the user (200) indicating an interest (col. 7 line 22-23) in a first piece of information (col. 7 line 22-23; i.e. an image a user finds relevant/not relevant) in the merged query result (figures 6-7);

identifying a search query from the plurality of search queries (col. 3 lines 41-48, col. 10 step 4) associated with the merged query result (figs. 6-7), the identified search query (col. 3 lines 41-48, col. 10 step 4) being associated with a query result (figure 3 drawing reference 304 and col. 8 line 57; e.g. an association link) including the first piece of information (col. 6 line 8-19), the query result from among the plurality of query results (col. 10 step 4; "for each positive example, check if any query is linked to it..." ;

adjusting (col. 3 line 49-50) a query factor associated with the identified search query (col. 5 line 24-29; e.g. a weight indicating a relevance of a keyword to an image) responsive to the input signal (col. 8 line 52-64);

locating a second piece of information in the query result (col. 9 line 13-19;"the feature and semantic matcher 152 also try to locate images that have similar low-level features as the example image selected by the user"; herein, the semantic and low-level features can be interpreted as an example of the "second piece of information in the query result") associated with the identified search query (col. 3 lines 41-48, col. 10 step 4);

determining a score for the second piece of information (col. 9 line 16-19) based
at least in part on the query factor col. 5 line 24-29; e.g. a weight indicating a relevance
of a keyword to an image) associated with the identified search query (col. 3 lines 41-
48, col. 10 step 4);

determining a second ranking sequence (col. 12 step 7) of the merged query
result based at least in part on the score (col. 7 line 49-50 and figure 5); and

presenting the merged query result to the user according to the second ranking
sequence (col. 12 step 8 and drawing references 508m, 518 as well as figures 6-7).

With respect to claim 2, Liu teaches the method of claim 1, wherein the input
signal indicates a selection of the first piece of information (figure 5 drawing reference
504).

With respect to claim 4, Liu teaches the method of claim 1, wherein the input
signal comprises user activity associated with the first piece of information (col. 8 line
45-51).

With respect to claim 5, Liu teaches the method of claim 4, wherein the user
activity comprises one or more of viewing duration, scrolling, mouse movement,
selection of links from the first piece of information, saving, printing, and bookmarking
(col. 8 line 47-48 describes at least "mouse movement" as well as "bookmarking").

With respect to claim 6, Liu teaches the method of claim 4, wherein the input signal further comprises user activity associated with articles linked from the first piece of information (col. 9 lines 61-67).

With respect to claim 7, Liu teaches the method of claim 1, further comprising:

identifying parts of text typed by the user (col. 5 line 67-col. 6 line 3; "a natural language parser 202 to parse text-based queries, such as keywords phrases and sentences"), the parts including at least two of the following: nouns, verbs, and proper nouns (col.8 lines 1-10 wherein Liu describes extracting keywords "tigers", "pictures", and "images" to teach identifying at least two nouns as well as separating these keywords from "looking for" and "find" which can be seen as identified verbs); and

generating the plurality of search queries based on the identified parts (col. 8 line 5-10 and drawing reference 408).

With respect to claim 8, Liu teaches the method of claim 1, wherein the input signal comprises a user rating (col. 9 lines 64-67).

With respect to claim 9, Liu teaches the method of claim 1, wherein one of the plurality of search queries comprises one of query type, query term, application, type of application, article type, and event type (col. 5 line 16 and col. 6 line 1).

With respect to claim 10, Liu teaches the method of claim 9, wherein the query type comprises one of current sentence, current paragraph, text near the cursor, extracted terms, and identified entries (col. 6 line 2; e.g. extracted keywords).

With respect to claim 11, Liu teaches the method of claim 1, wherein the score comprises a relevance score (col. 5 line 30-31).

With respect to claim 12, Liu teaches the method of claim 1, wherein the score comprises a popularity score (col. 10 line21; e.g. a voting scheme describes "popularity").

With respect to claim 15, Liu teaches the method of claim 1, wherein the input signal comprises multiple input signals (col. 9 line 52-67; e.g. "view", rating and "similar" are all inputs effected to suggest a users interest).

With respect to claim 16, Liu teaches the method of claim 1, further comprising:

generating the plurality of search queries based on a plurality of data streams (col. 8 line 1-4);

and executing the plurality of search queries for the plurality of search results (figure 4, drawing reference 406).

With respect to claim 17, Liu teaches the method of claim 16, wherein the plurality of data streams comprise a data stream describing current contextual state of a user (figure 5 drawing reference 504-518; e.g. finding images based on a selected image describes implicitly finding related images to a user's context (e.g. preference).

With respect to claim 18, Liu teaches A computer program product having a computer-readable storage medium having executable computer program instructions tangibly embodied thereon for ranking information, the executable computer program instructions comprising instructions for:

receiving a plurality of query results (col. 3 line 32-34 and figures 6-7; e.g. retrieving a plurality of images in response to a search) of a plurality of search queries (col. 3 line 23-25 and col. 7 line 67-col. 8 line 10 as well as figure 3 drawing reference 302 and col. 12 step 1; e.g. keywords parsed from a query);

merging (col. 8 line 22-23; i.e. *adding* found images to the result set) the plurality of query results (col. 3 line 32-34 and figures 6-7) into a merged query result (figs. 6-7), the merged query result (figs. 6-7) being associated with the plurality of search queries (col. line 20-24 and figure 3 which shows keywords associated to images);

determining a first ranking sequence (fig. 4 drawing reference 412) of the merged query result (col. 7 line 15-18figs. 6-7);

presenting the merged query result (figs. 6-7) to a user (figure 2 drawing reference 200) according to the first ranking sequence (col. 7 line 19-21 and drawing reference 416; i.e. displaying a result set from initial query handling);

identifying an input signal (figure 5 drawing reference 502) from the user (200) indicating an interest (col. 7 line 22-23) in a first piece of information (col. 7 line 22-23; i.e. an image a user finds relevant/not relevant) in the merged query result (figures 6-7);

identifying a search query from the plurality of search queries (col. 3 lines 41-48, col. 10 step 4) associated with the merged query result (figs. 6-7), the identified search query (col. 3 lines 41-48, col. 10 step 4) being associated with a query result (figure 3 drawing reference 304 and col. 8 line 57; e.g. an association link) including the first piece of information (col. 6 line 8-19), the query result from among the plurality of query results (col. 10 step 4; "for each positive example, check if any query is linked to it..." ;

adjusting (col. 3 line 49-50) a query factor associated with the identified search query (col. 5 line 24-29; e.g. a weight indicating a relevance of a keyword to an image) responsive to the input signal (col. 8 line 52-64);

locating a second piece of information in the query result (col. 9 line 13-19; "the feature and semantic matcher 152 also try to locate images that have similar low-level features as the example image selected by the user"; herein, the semantic and low-level features can be interpreted as the "second piece of information") associated with the identified search query (col. 3 lines 41-48, col. 10 step 4);

determining a score for the second piece of information (col. 9 line 16-19) based at least in part on the query factor col. 5 line 24-29; e.g. a weight indicating a relevance of a keyword to an image) associated with the identified search query (col. 3 lines 41-48, col. 10 step 4);

determining a second ranking sequence (col. 12 step 7) of the merged query

result based at least in part on the score (col. 7 line 49-50 and figure 5); and

presenting the merged query result to the user according to the second ranking

sequence (col. 12 step 8 and drawing references 508m, 518 as well as figures 6-7).

With respect to claim 21, Liu teaches the computer program product of claim 18,

the executable computer program instructions further comprising instructions for:

generating the plurality of search queries based on a plurality of data streams

(col. 8 line 1-4);

and executing the plurality of search queries for the plurality of search results

(figure 4, drawing reference 406).

With respect to claim 22, Liu teaches the method of claim 1, wherein determining

the second ranking sequence comprises:

determining the second ranking sequence of at least some of the merged query

result based at least in part on the score (figure 5 and col. 12 steps 7-8), the at least

some of the merged query result associated with at least two search queries (figure 3

and col. 12 step 1).

With respect to claim 23, Liu teaches the method of claim 1, further comprising:

generating the plurality of search queries (col. 8 line 1-10); and

adding information from results of the plurality of search queries into the merged

query result (col. 8 line 23-25 and figure 4).

With respect to claim 24, Liu teaches the computer program product of claim 18, the executable computer program instructions further comprising instructions for:

generating the plurality of search queries associated with the merged query result (col. 6 line 38-47);

and adding information from results of the plurality of search queries into the merged query result (col. 8 line 23-25 and figure 4).

With respect to claim 25, Liu teaches A query system for ranking information, comprising:

a computer processor (130) for executing computer program instructions (col. 7 line 52);

a computer-readable storage medium having executable computer program instructions (132, 134) tangibly embodied thereon, the executable computer program instructions comprising instructions for:

a module (150) configured to receive a plurality of query results (col. 3 line 32-34 and figures 6-7; e.g. retrieving a plurality of images in response to a search) of a plurality of search queries (col. 3 line 23-25 and col. 7 line 67-col. 8 line 10 as well as figure 3 drawing reference 302 and col. 12 step 1; e.g. keywords parsed from a query);

a module (210-214) configured to merge (col. 8 line 22-23; i.e. *adding* found images to the result set) the plurality of query results (col. 3 line 32-34 and figures 6-7)

into a merged query result (figs. 6-7), the merged query result (figs. 6-7) being associated with the plurality of search queries (col. line 20-24 and figure 3 which shows keywords associated to images);

a module configured (216) to determine a first ranking sequence (fig. 4 drawing reference 412) of the merged query result (col. 7 line 15-18figs. 6-7);

a module (200) configured to present the merged query result to a user according to the first ranking sequence (412 and 416);

a module (220) configured to identify an input signal (figure 5 drawing reference 502) from the user (200) indicating an interest (col. 7 line 22-23) in a first piece of information (col. 7 line 22-23; i.e. an image a user finds relevant/not relevant) in the merged query result (figures 6-7);

a module (222) configured to identify a search query from the plurality of search queries (col. 3 lines 41-48, col. 10 step 4) associated with the merged query result (figs. 6-7), the identified search query (col. 3 lines 41-48, col. 10 step 4) being associated with a query result (figure 3 drawing reference 304 and col. 8 line 57; e.g. an association link) including the first piece of information (col. 6 line 8-19), the query result from among the plurality of query results (col. 10 step 4; "for each positive example, check if any query is linked to it..." ;

a module (222) configured to adjust (col. 3 line 49-50) a query factor associated with the identified search query (col. 5 line 24-29; e.g. a weight indicating a relevance of a keyword to an image) responsive to the input signal (col. 8 line 52-64);

a module (210-214) configured to locate a second piece of information in the query result (col. 9 line 13-19;"the feature and semantic matcher 152 also try to locate images that have similar low-level features as the example image selected by the user"; herein, the semantic and low-level features can be interpreted as the "second piece of information") associated with the identified search query (col. 3 lines 41-48, col. 10 step 4);

a module (220-222) configured to determine a score for the second piece of information (col. 9 line 16-19) based at least in part on the query factor col. 5 line 24-29; e.g. a weight indicating a relevance of a keyword to an image) associated with the identified search query (col. 3 lines 41-48, col. 10 step 4);

a module (216) configured to determine a second ranking sequence (col. 12 step 7) of the merged query result based at least in part on the score (col. 7 line 49-50 and figure 5); and

a module (200) configured to present the merged query result to the user according to the second ranking sequence (col. 12 step 8 and drawing references 508m, 518 as well as figures 6-7)..

With respect to claim 26, Liu teaches the query system of claim 25, further comprising:

a module configured to receive a user input (200); and

a module configured to generate the plurality of search queries based on the user input (202).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liu as

applied to claim 1 above in view of Barrett et al. ("Barrett" hereafter) U.S. Patent

Application 2003/0135490.

With respect to claim 3, Although Liu teaches a lack of selection from a user of a

first piece of information (i.e. the "No" branches in figure 5), they appear to lack teaching

(with emphasis) the method of claim 1, wherein the input signal comprises lack of

selection of the first piece of information *for at least a specified amount of time from*

when the first piece of information is displayed to the user.

Barrett, however, teaches wherein the input signal comprises lack of selection of

the first piece of information *for at least a specified amount of time from when the first*

piece of information is displayed to the user (paragraph 0012 step 16) for indicating a

time a user spends with a result (i.e. duration) to calculate a user's interest for scoring

purposes.

Accordingly, in the same field of endeavor (i.e. information search and ranking), it

would have been obvious to one of ordinary skill in the data processing art at the time of

the present invention to combine the teachings of the cited references because the

interest gauged by Barrett would have given Liu further feedback information for

calculating relevance for the benefit of presenting optimized and refined results.

Claims 13, 14, 19, 20, 27, and 28 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Liu as applied to claims 1, 18, and 25, respectively, above.

With respect to claim 13 and similar claims 19 and 27, although Liu teaches

refining search results due to a user input (figure 5 drawing references 502, 504 and

518 as well as col. 12 steps 3 and 7-8) to suggest refreshing a display, they do not

expressly recite the method of claim 1, further comprising increasing a refresh rate of a

display of the merged query result to the user responsive to receiving input signals at an

increasing frequency.

However, it would have been obvious for Liu to teach increasing a refresh rate of

a display of the merged query result responsive to receiving input signals at an

increasing frequency because in refining results based on user interest, the rate of

display would be increased due to user interest (i.e. in a situation of a user continuing to

select "similar" and thus retrieving refined results). Such is apparent in Liu's browsing

behavior of a user (col. 9 line 53-59). Therein, it would have been obvious that a user's browsing behavior would determine subsequent queries for images so that refined (and thus refreshed) results would be presented in the next screen. Such a teaching of varying the refresh (refinement) rate would have been beneficial for the user to quickly refine results and locate the best result suited for their quer(y/ies).

Claims 19 and 27 are substantially rejected under the same rationale as claim 13 for reciting essentially the same subject matter.

With respect to claim 14 and similar claims 20 and 28, Liu teaches he method of claim 1, wherein the input signal is a first input signal and the interest is a first interest(drawing reference 502), further comprising:

receiving a second input signal indicating a second interest in a third piece of information (col. 12 steps 3 and 8 wherein step 8 repeats step 3 to suggest collecting a second indication of interest).

Liu does not appear to expressly recite varying a refresh rate of a display of the merged query result to the user based at least in part on the duration between receiving the first input signal and the second input signal.

However, it would have been obvious for Liu to teach varying a refresh rate of a display of the merged query result to the user based at least in part on the duration between receiving the first input signal and the second input signal because, depending on the user's interest and feedback (i.e. a duration of input signals indicating if the user is interested or not), the results would have been refined (and thus refreshed)

accordingly. Such is apparent when Liu describes a user's browsing behavior to select similar images and thereafter present refined (refreshed) results. Such a teaching of varying the refresh (refinement) rate would have been beneficial for the user to quickly refine results and locate the best result suited for their quer(y/ies).

Claims 20 and 28 are substantially rejected under the same rationale as claim 13 for reciting essentially the same subject matter.

Response to Arguments

Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection in view of Liu and Liu in view of Barrett.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert M. Timblin whose telephone number is 571-272-5627. The examiner can normally be reached on M-Th 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Cottingham can be reached on 571-272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ROBERT TIMBLIN/

Examiner, Art Unit 2167

/John R. Cottingham/

Supervisory Patent Examiner, Art Unit 2167